

Annual Report to US Forest Service
West Virginia Insect Condition for 1989

Gypsy Moth - All life stages found in Jefferson, Berkeley, Morgan, Hampshire, Mineral, Hardy, Grant, Tucker, Preston and Monongalia Counties. Isolated infestation found in Mercer County.

Defoliation occurred on 86,737 acres of forested land in the counties of: Mercer - 27,055; Hampshire - 23,195; Hardy - 16,379; Grant - 7,418; Preston - 6,577; Morgan - 3,319; and Berkeley 2,793.

Defoliation ranged from light (11,668 acres), moderate (30,535 acres) and heavy (44,533 acres).

Treatment took place on 74,766 acres in West Virginia. Of this total 51,039 acres were in the cooperative state-county-landowner program and 23,727 acres were in the AIPM area. A total of 3,778 acres were treated with B.t. and the remainder 70,990 acres treated with Dimilin.

Total cost of treatment in 1989 was \$5.40 /acre. The landowner paid 57% of this cost or a total of \$3.09 /acre. The USFS paid the remaining 43% of the cost.

Locust leaf miner - State wide but decreasing in southern West Virginia. Heavy in the central and northeastern parts of West Virginia.

Yellow poplar leaf miner weevil - Abundant statewide - on the increase.

Smaller Elm leaf beetle - Heavy on elms throughout the state.

Eastern Tent Caterpillar - Extremely abundant in 1989 and occurred statewide.

Red-headed pine sawfly - On the increase and found only in Christmas tree plantations.

Virginia pine sawfly - On the increase in southern West Virginia.

Orangestriped oakworm - Seemed to be increasing.

Fall Webworm - Declining population.

Oak leaftier - Declining population.

Fall Cankerworms & looper complex - On the increase in northeastern parts of West Virginia.

During 1989 few serious insect problems were noted. It is believed the extremely wet season was responsible for the decline. However, the gypsy moth population literally exploded.

WEST VIRGINIA FOREST DISEASE CONDITIONS REPORT FOR 1989

Major Diseases

Beech Bark Disease - The beech scale infestation and beech bark disease mortality are virtually restricted to the Monongahela National Forest. All work on this complex is being done by the USFS/S&PF office in Morgantown.

Diplodia Tip Blight - This is a common problem on Scotch and Austrian Pine. Occasionally this pattern is observed on pitch, red and other hard pines. In West Virginia this disease is of more importance in ornamental plantings than forest or Christmas tree stands.

Oak Wilt - Due to budgetary constraints, no aerial survey was conducted in 1989. From past surveys, it is felt that disease incidence may fluctuate from year to year, but there has been no overall trend toward an increase or decrease in incidence.

Scleroderris Canker - Never detected in West Virginia

Spruce Cone Rust - Never Detected in West Virginia

Weather related problems - March 5 - 6 a severe ice storm hit the northern half of West Virginia. Two to four inches of ice were reported in portions of Preston County. Damage was spotty, but many trees suffered broken limbs and some timber was knocked down. No volume estimates were made.

In September winds from Hurricane Hugo hit in several of the southern counties including Monroe and Mercer. Damage was very spotty. The largest blowdown reported was approximately 5 acres (10,000 Bd. ft.) of timber. Some property owners are planning salvage cuts.

Dogwood Anthracnose - During 1989 Focused Funding monies provided by the USFS helped to support a survey for dogwood anthracnose in West Virginia. Actually, a driving survey was conducted with impact plots being placed on a 15 minute grid system. Dogwood anthracnose disease was detected in the 16 counties surveyed including: Mercer, Monroe, Summers, Greenbrier, Pocahontas, Randolph, Pendleton, Tucker, Preston, Grant, Hardy, Mineral, Hampshire, Morgan, Berkeley, and Jefferson. Additionally, dogwood anthracnose disease was detected in Monongalia, Upshur, Marion, Ohio and Fayette Counties.

Disease incidence was not uniform within a given county. At one location the dogwood trees might appear totally healthy, while less than a mile away the dogwoods would be heavily infected. The disease was most severe with heaviest mortality in the Eastern Panhandle Counties.

A total of 336 trees were examined on the impact plots. Of those trees, 31.45% possessed one or more cankers, presumably caused by the dogwood anthracnose fungus Discula. Each of the three hundred thirty-six trees were examined and assigned to one of six damage classes (see table).

Table 1

Distribution of Damage Classes

| Tree Class | Percent |
|------------|---------|
| 5 | 41 |
| 4 | 18.2 |
| 3 | 10.4 |
| 2 | 9.2 |
| 1 | 5.4 |
| 0 | 15.8 |

5 = Healthy
 4 = 1 - 25% Of Foliage Affected
 3 = 26 - 50% "
 2 = 51 - 75% "
 1 = > 75% "
 0 = Dead

Declines

Ash (ash yellows). This disease has never been detected in West Virginia.

Birch. A birch decline complex has never been detected in West Virginia.

Larch. Very little larch grows naturally or is planted in West Virginia. There has never been a larch decline problem.

Spruce and Fir. Most of the land with red spruce and fir on it is contained in the Monongahela National Forest. Work on spruce decline is conducted by the USFS/S&PF office in Morgantown.

Maple. Maple decline has been observed among ornamental trees, but has not been observed in the forest setting. Maple decline among ornamentals is easily explained due to soil compaction, deicing salt and other problems.

Oak Decline. The moist spring and summer of 1989 helped to replenish soil moisture and reduce the effects of the serious drought occurring the previous two years. Although individual declining trees are noted in our forests, large pockets of mortality were not observed during 1989.

OTHER DISEASES OF INTEREST

Hardwood Diseases

Anthracnose of Hardwoods. Incidence of hardwood anthracnose disease was widespread throughout the state. Sycamores suffered moderate to severe defoliation, while white oak and ash suffered light to moderate defoliation. This represents an increase in disease incidence over the previous year. The unusually cool moist spring was particularly responsible for the problems.

Bull's-eye leaf spot (Cristulariella pyramidalis) Incidence was light to moderate this year on maples and other hardwoods. Incidence was slightly greater than that reported in 1988.

Dutch elm disease (Ceratocystis ulmi) Disease incidence throughout the state remains relatively constant. This is probably the single most important forest and shade tree problem in West Virginia.

Elm phloem necrosis (Elm yellows MLO) No diseased trees were reported in 1989.

Elm Black Leaf Spot(Stegophora ulmea) Incidence was widespread. Some elms suffered partial defoliation.

Fireblight (Erwinia amylovora) This bacterial disease was widespread on crabapples and other members of the Rosaceae family. Light infection rates were reported in the spring.

Hypoxyton canker (Hypoxyton sp.) With the increase in dead and dying timber, due to decline caused by drought and defoliation, there appears to be a corresponding increase in this opportunistic pathogen.

Oak Decline. Induced by drought and insect defoliation, oak decline has been a serious problem in West Virginia. Fortunately the precipitation received during the spring and summer of 1989 has helped to alleviate some of this problem. Some severely stressed trees from previous years have continued to die. However, large pockets (1-10 acres) of dying timber were not reported during 1989.

Conifer Diseases

Atropollis Canker (Atropollis tingens) Continues to cause branch tip mortality in a number of Scotch pine Christmas tree plantings around the state. Some growers have incurred economic loss from this pathogen.

Cytospora Canker (Cytospora keunzei) Cytospora canker is a fairly common disease occurring in nearly every county of the state on Norway and blue spruce.

Diplodia Tip Blight (Dipoldia pinea) This disease is commonly observed on Scotch and Austrian pines approaching maturity. Generally, these trees are planted out as ornamentals. Occasionally this disease is found on pitch, red and other hard pines. It is not considered a significant problem except in the ornamental situation.

Lophodermium Needlecast (Lophodermium seditiosum) Disease incidence was low again in 1989. Three Christmas tree growers experienced light damage in Scotch pine plantings in Mason and Upshur Counties.

Naemacyclus Needlecast (Naemacyclus minor = Cyclaneusma minor) Disease incidence remained low in 1989. This pathogen can be found in nearly every Scotch pine stand. This disease rarely causes enough damage to warrant control.

Pinewood nematode (Bursaphlenchus xylophilus) This pathogen was detected in dying 15-20 year old Scotch pine planted for reforestation purposes. The large plantation was located in Lewis County.

Pine Root Decline (Leptographium procerum) Continues to cause mortality in many white pine plantings. While disease incidence fluctuates from year to year. Growers generally lose less than 5% of the residual stand a year.

White Pine Blister Rust (Cronartium ribicola) Due to budgetary constraints the WPBR Project was phased out December 31, 1987. We no longer conduct blister rust suppression work. One Christmas tree grower in Grant County did experience moderate to heavy losses in his white pine planting (400-500 trees killed), due to blister rust infection.